

**NOT FOR PUBLICATION**

**UNITED STATES DISTRICT COURT  
DISTRICT OF NEW JERSEY**

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CRAIG THORNER and VIRTUAL REALITY )  
FEEDBACK CORPORATION, )  
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   )  
Plaintiffs, )  
   )  
   )  
v. ) Civil Action No. 09-1894 (GEB-DEA)  
   )  
SONY COMPUTER ENTERTAINMENT )  
AMERICA LLC, SONY COMPUTER         )  
ENTERTAINMENT INC., SONY             )  
ELECTRONICS, INC., GEGORY S. GERWITZ, )  
LERNER DAVID LITTENBERG KRUMHOLZ )  
& MENTLIK, LLP, RILEY RUSSELL, LARRY )  
C. RUSS, MARC A. FENSTER and RUSS )  
AUGUST & KABAT, A PROFESSIONAL )  
CORPORATION, )  
   )  
   )  
Defendants. )  
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**MEMORANDUM OPINION**

**BROWN, Chief Judge**

This is a patent infringement case concerning electronic devices that deliver tactile sensations to a user who is playing a video game. There are two patents at issue, U.S. Pat. Nos. 6,422,941 (the ‘941 patent) and 5,684,722 (the ‘722 patent). The patents are titled “Universal Tactile Feedback System for Computer Video Games and Simulations” and “Apparatus and Method for Generating a Control Signal for a Tactile Sensation Generator” respectively.

This matter comes before the Court on requests for claim construction by Plaintiffs Craig Thorner and Virtual Reality Feedback Corporation (collectively “Plaintiffs”); and Defendants

Sony Computer Entertainment America LLC, Sony Computer Entertainment, Inc., and Sony Electronics, Inc. (collectively “Defendants”). The ‘941 patent, whose terms are discussed in this opinion, is directed to attaching vibrating electronic devices, referred to as actuators, to video game controllers, seats, and other objects in order to transmit vibrations to the user that correspond with the action in the game. (*See* ‘941 patent, 43:56-46:35.)

## I. BACKGROUND

In their joint claim construction chart, the parties dispute the construction of thirteen terms in the two patents. (Joint CC Chart; Doc. No. 31.) To establish the construction of these terms, this Court held a Markman hearing on September 20, 2010, and construed all but four terms. Two of those terms cannot be resolved without taking evidence on the knowledge of a person of ordinary skill in the art. This opinion addresses the remaining two terms. Those terms both appear in claim 1 of the ‘941 patent, which states:

1. In a computer or video game system, apparatus for providing, in response to signals generated by said computer or video game system, a tactile sensation to a user of said computer or video game system, said apparatus comprising:

a flexible pad;

a plurality of actuators, attached to said pad, for selectively generating tactile sensation; and

a control circuit, coupled to said plurality of actuators, where said control circuit is responsive to signals that are generated by said computer or video game system, for generating a control signal to control activation of said plurality of actuators, where said signals correspond to action portrayed on said computer or video game system.

(‘941 patent, 43:56-44:4(emphasis on disputed terms).)

## II. DISCUSSION

### A. Standard of Review

The first step in a patent infringement analysis is to define the meaning and scope of the claims of the patent. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996). Claim construction, which serves this purpose, is a matter of law exclusively for the court. *Id.* at 979. When construing claims, the court must first consider the intrinsic evidence. Specifically, the focus of the court's analysis must begin and remain on the language of the claims, "for it is that language that the patentee chose to use to 'particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.'" *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (quoting 35 U.S.C. § 112, ¶ 2).

Generally, there is a presumption that the words of a claim will receive the full breadth of their ordinary meaning. *NTP, Inc. v. Research In Motion, Ltd.*, 392 F.3d 1336, 1346 (Fed. Cir. 2004). The ordinary meaning may be derived from a variety of sources, including: the claim language, the written description, drawings, the prosecution history, and dictionaries or treatises. *Id.* This presumption may be rebutted if the patentee acted as his or her own lexicographer by clearly setting forth a definition of the claim term that differs from its ordinary and customary meaning. *Brookhill-Wilk I, LLC. v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298-99 (Fed. Cir. 2003). Any intent by the patentee to redefine a term must be expressed in the written description and must be sufficiently clear. *Merck & Co, Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir. 2005). When a patent applicant specifically defines a claim term in its

description of its invention, that definition controls. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (*en banc*) (“In such cases, the inventor’s lexicography governs.”). The Federal Circuit has “repeatedly encouraged claim drafters who choose to act as their own lexicographers to clearly define terms used in the claims in the specification.” *Sinorgchem Co. v. ITC*, 511 F.3d 1132, 1136 (Fed. Cir. 2007).

When the patentee has not provided an explicit definition of a claim term, the words of a claim are given their plain and ordinary meaning to a person of ordinary skill in the art. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The person of ordinary skill in the art is deemed to read the claim terms in the context of the entire patent, including the specification. *Phillips*, 415 F.3d at 1313. However, a court should not limit the claims to the embodiments disclosed in the specification. See *Phillips*, 415 F.3d at 1323. At the other extreme, a claim construction that excludes a preferred embodiment “is rarely, if ever, correct and would require highly persuasive evidentiary support.” *Vitronics*, 90 F.3d at 1583.

A court may also consider extrinsic evidence when an analysis of the intrinsic evidence alone does not resolve the ambiguities of a disputed claim term. *Id.* at 1582-83. While a court may rely on extrinsic evidence to construe a claim, “what matters is for the court to attach the appropriate weight to be assigned to those sources.” *Phillips*, 415 F.3d at 1324. Extrinsic evidence may never be used to contradict intrinsic evidence. *Id.* at 1322-23.

## B. Analysis

The majority of the terms will be construed as set forth on the record during the Markman hearing and in the accompanying order. However, two of the terms require additional discussion:

(1) “flexible pad,” and (2) “attached to said pad.” Both terms appear in claim 1 of the ‘941 patent. The Court construes “flexible pad” to mean “*an object or base, where such object or base is capable of being noticeably flexed with ease, including, among other things, hand-held game pad controllers that are capable of being noticeably flexed with ease*” and construes “attached to said pad” to mean “*affixed to the exterior surface of the flexible pad*” for the reasons set forth below.

***(1) flexible pad***

Plaintiffs propose the construction “*The object or base to which a plurality of actuators are attached or in which a plurality of actuators are embedded, where such object or base is capable of being flexed. As the term ‘flexible pad’ is used in the context of the ‘941 patent, it includes, among other things, handheld game pad controllers.*” (Joint CC Chart at 7; Doc. No. 31.) Defendants’ construction is “*A foam or cushion-like structure. The ‘flexible pad’ is not the hand-held game pad described in the ‘941 patent.*” (Joint CC Chart at 7; Doc. No. 31.) The parties’ constructions differ primarily with regard to two elements. First, the constructions differ because Plaintiffs propose that “flexible” means “*capable of being flexed.*” Second, the constructions differ on whether “flexible pad” includes the hand-held game pad described in the ‘941 patent; Plaintiffs argue the term includes the hand-held game pad, but Defendants argue that a “flexible pad” must be a foam or cushion-like structure and not a hand-held game pad.

Turning to the first issue, Plaintiffs’ interpretation of “flexible” as “*capable of being flexed*” is inappropriate because that construction is far broader than the ordinary meaning of the term. Many objects that are capable of being flexed are not flexible. A steel I-beam is capable of

being flexed, but no one would call it “flexible.” An I-beam flexes somewhat when a person walks across it and transmits vibrations when someone hits it with a hammer, but it is not flexible because it cannot be noticeably flexed without substantial force. Thus, this example suggests that the ordinary meaning of the term “flexible” is closer to “*capable of being noticeably flexed with ease.*” See *In re Buszard*, 504 F.3d 1364, 1367 (Fed. Cir. 2007) (“We agree with Buszard that it is not a reasonable claim interpretation to equate ‘flexible’ with ‘rigid[.]’”). As such, Plaintiffs’ construction violates the basic canon that claim terms must be construed based upon the ordinary meaning of the terms. *NTP, Inc. v. Research In Motion, Ltd.*, 392 F.3d at 1346; *Interactive Gift Express*, 256 F.3d at 1331.

Further, there is no definition in the specification that suggests this Court depart from the ordinary meaning of the term. (See ‘941 patent.) Indeed, the patent never even uses the term “flexible pad” except in the claims. (See *id.*) Additionally, many embodiments of the invention are made out of structures that would be easily flexed. For example, several embodiments attach actuators to a “semi-rigid foam structure,” a “semi-rigid flexible foam structure,” or a “semi-rigid foam cushion,” which can all be easily flexed. (‘941 Patent, 2:29-36, 32:47-52, 37:6-12, 37:23-25; 37:48-50.) Thus, given the consistency of many of the patent’s embodiments with the Court’s construction of the term, there is no reason to ignore the ordinary meaning of the term “flexible” to include structures that generally would be considered rigid. *In re Buszard*, 504 F.3d at 1367.

The second issue concerns whether a hand-held game pad is included in the term “flexible pad.” Because the ordinary meaning of “flexible pad” suggests a hand-held game pad

would be included in the term if it was flexible and because the specification suggests that the hand-held pad could be flexible, this Court finds that the term includes a hand-held game pad.

First, a hand-held game pad and a flexible pad are both “pads.” Second, the specification discloses attaching actuators to a hand-held game pad:

One very common control input device used for 1<sup>st</sup> person perspective combat games, and for most console games, is a hand-held game pad. FIG. 38A depicts a front view of an illustrative hand-held control input device. . . . Vibratory motors and/or solenoids can be attached to the hand-held game pad as depicted in FIGS. 83 and 84. In FIG. 38C, a vibratory tactile sensation generator 590 is attached to the back of the hand-held control input device. The single tactile sensation generator is effective for both hands, due to the small size of the hand-held game controller. In FIG. 38D, tactile sensation generators for the left hand 590 and right hand 591 are contained within a single housing. A first vibratory motor 590 predominately services the left hand, and a second vibratory motor 590 services the right hand. Additionally, a solenoid 594 rattles the hand-held controller (see FIG. 29E). These tactile sensation generators may be embedded within the hand-held controller at its point of manufacture.

(‘941 patent, 43:15-35 (some emphasis added).) Thus, nothing in the term “flexible pad” would exclude a hand-held game pad if it were flexible. The remaining question, then, is whether the hand-held game pad disclosed could be sufficiently flexible to be included within the scope of the term “flexible pad.”

The specification suggests that it would be. As used in the specification, the term “pad” implies some flexibility because it is repeatedly used as a more general stand-in for flexible materials. The best example of the word “pad” being used as a stand-in for flexible matter appears in the specification’s discussion of Figures 27-30:

In Figs. 27-30, the tactile feedback seating unit 510 is a semi-rigid flexible foam structure, sealed with a cloth or vinyl layer, with a leg portion and a back portion, substantially shaped to easily rest upon any given seat, with a plurality of actuators

embedded within the foam structure, such that the actuators in the pad produce localized vibration.

(‘941 patent, 37:6-12 (emphasis added).) On this, and several other occasions, the specification uses “pad” to refer to structures that are flexible. (‘941 patent, 32:47-52; *see also* ‘941 patent, 37:48-50, Figs. 27A, 27C.) As such, the hand-held game pad could be flexible, and is specifically disclosed in the patent.

Defendants’ argument that “flexible pad” refers only to “*a foam or cushion-like structure,*” (Defs.’ Br. at 8-10; Doc. No. 148), is unavailing because it improperly reads a limitation of an embodiment into the claim term. *See Phillips*, 415 F.3d at 1323; *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337 (Fed. Cir. 2001) (“[O]ne of the cardinal sins of patent law [is] reading a limitation from the written description into the claims.”). There is no doubt that specification discloses foam or cushion-like structures; however, the word “pad” does not require the use of these materials. Certainly, a rubber pad would be one example of a pad that would not be made of foam or be cushion-like. Therefore, the Court also rejects Defendants’ construction for this term.

Thus, because portions of both Plaintiffs’ and Defendants’ constructions are improper,<sup>1</sup> the Court adopts its own construction that is in line with the ordinary meaning of the term “flexible pad” and does not import any limitations from the specification into the claim. The Court construes the term “flexible pad” to mean “*an object or base, where such object or base is capable of being noticeably flexed with ease, including, among other things, hand-held game pad*

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<sup>1</sup>Plaintiffs’ construction also improperly attempts to import their construction for “attached” into this term. That construction is discussed below under the appropriate heading.

*controllers that are capable of being noticeably flexed with ease.”*

**(2) Attached to said pad**

The second term that requires additional discussion, “attached to said pad,” is more difficult to construe. Defendants propose that “attached to said pad” should be construed to mean “*Affixed to the exterior surface of the single foam or cushion-like structure. ‘Attached to said pad’ is not ‘embedded within said pad’ as described in the ‘941 patent.*” (Joint CC Chart at 9, Doc. No. 31). Plaintiffs propose that this term does not require construction and should be given its ordinary and customary meaning. (Joint CC Chart at 9; Doc. No. 31.) Plaintiffs argue that an actuator can be “attached” to the inside of an object as well. (Pl’s Br. at 18; Doc. No. 147; Pl’s Reply Br. at 6; Doc. No. 152). While Defendants incorporate their construction of “flexible pad” into this term, the real dispute over this term is whether “attached” should be construed to include embedding an actuator inside an object or construed as limited to affixing the actuator to the outer surface.

This question is difficult because of several competing considerations. On the one hand the specification repeatedly uses the term “attached” to mean only “affixing to the outer surface” and both “attached” and “embedded” appear in the claims, suggesting consistent use. On the other hand, construing the term to exclude embedding seems to exclude the specification’s only description of the seat-based embodiment, which is a primary embodiment. Nonetheless, because several seat-based embodiments would still be included in the claim language, construing the claim in line with its meaning in the specification will not violate the tenet that claims must be construed to include preferred embodiments. *Vitronics*, 90 F.3d at 1583.

The discussion of this term requires a closer look at the caselaw. Claims must be construed in light of the specification. *Phillips*, 415 F.3d at 1312. A patentee may choose to be his own lexicographer and use a term in a manner other than its ordinary meaning; however, an “explicit statement of redefinition” is not always necessary if the patentee clearly expresses an intent to redefine the term. *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001). Indeed, “when a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term ‘by implication.’” *Id.* at 1271; *see Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002).

Despite Plaintiffs’ arguments that the word need not be construed, this Court finds that the specification redefines “attached” by implication. There are two reasons that “attached” cannot be construed to include embedding: (1) the specification repeatedly and consistently uses the terms distinctly and with different meanings, and (2) the claims themselves differentiate attaching from embedding.

The ‘941 patent uses “attached” to mean only “*affixed to the outside surface*”; any time it refers to an actuator inside an object, it uses only the term “embedded.” Two, of many examples, are reproduced below:

In a second illustrative form, small vibratory actuators can be affixed to or embedded within the throttle’s handle . . . . They may be attached in a temporary fashion via small elastic straps, or they may be embedded within a small plastic housing that is specifically designed to fit precisely upon the surface of a specific location of a specific throttle handle.

(‘941 patent, 33:45-58) (emphasis added.)

In the preferred illustrative form, a vibratory actuator can be attached to [the] outer side of the 40 throttle handle with hook and loop fasteners or two sided adhesive foam tape (or some other readily available attachment means). . . . In a 45 second illustrative form, small vibratory actuators can be affixed to or embedded within the throttle's handle, . . . . If these motors are attached to the outer surface of the 50 throttle handle, they must be small enough to not substantially disrupt the ergonomics of the throttle handle. A preferable location would be the underside (bottom) of the throttle handle. They may be attached in a temporary fashion via small elastic straps, or they may be embedded within a 55 small plastic housing that is specifically designed to fit precisely upon the surface of a specific location of a specific throttle handle. . . . The tactile sensation actuator(s) for a flight control joystick 540 are implemented in a similar fashion to the actuators for the throttle and weapons controller 530. In the preferred illustrative form, vibratory actuators can be affixed to or embedded within the joystick's handle, such that the hand of the user, in holding the joystick, will come into direct or indirect contact with these vibratory motors. If these motors are attached to the outer surface of the joystick handle, they must be small enough to not substantially disrupt the ergonomics of the joystick handle.

(‘941 patent, 33:39-34:9 (emphasis added); *see also* ‘941 patent, 3:32-37, 33:45-58, 33:9-28, 33:37-34:9, 39:58-64, 40:13-14.) Thus, the specification consistently uses “attached” when it refers to an actuator affixed to the outer surface, and it consistently uses “embedded” when it refers to an actuator inside an object. This strongly suggests that, as two different words that are consistently used in different contexts, “attached” does not encompass embedding. *See Bell Atl.*, 262 F.3d at 1271 (finding that consistent use in the specification may implicitly redefine a term); *Acumed v. Stryker*, 483 F.3d 800, 807 (Fed. Cir. 2007) (finding that “transverse” did not mean the same thing as “perpendicular,” because if it did, there would have been no need to use both terms). Thus, the specification defines “attached” as “*affixed to the outer surface of an object*.” This distinction is not abandoned in the claims – claim 1 uses the word “attached,” but claim 10 uses the term “embedded.” (‘941 patent, 43:62, 45:14-20.)

It may appear at first blush that the Court’s construction reads the preferred seat embodiments out of the claims. (‘941 patent, 2:17-20 (the seat embodiment is “a primary objective of the patent”); *see also* ‘941 patent Abstract; Defs.’ Br. at 6, Doc. No. 148.) However, while the patent only describes in detail the seat embodiment with embedded actuators (‘941 patent, 32:47-63, 4:45-50), these descriptions are merely “illustrative” and “by no means specifically imply any limitations regarding other possible . . . control input devices.” (‘941 patent, 32:13-17.) When the seat-based embodiments are mentioned as a primary objective, they are not limited to embedding. (‘941 patent, 2:17-20 (“a primary objective of the present invention is to introduce a tactile feedback seating unit that can produce tactile feedback within a seat”.) As such, the seat-based embodiment with embedded actuators is only one sub-embodiment of many seat-based embodiments, which include attaching actuators to the surface of a seat. Consequently, claims 1, 6 and 7, which claim a seating unit, include the embodiments that attach the actuators to the seat. They only exclude the sub-embodiment that is detailed by the specification. Thus, the meaning of “attached” that is clearly set forth in the specification to exclude embedding does not violate the tenet of construction that the claims be read to include preferred embodiments.<sup>2</sup>

While there is no doubt that construing “attached” in this manner also reads many other embodiments described in the specification out of the claims, it is the claims that define the invention, not the embodiments that are disclosed in the specification. This is a “bedrock principle” of patent law. *Phillips*, 415 F.3d at 1312; *see also Interactive Gift Express*, 256 F.3d at 1331. The

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<sup>2</sup>The preferred embodiments of embedding of actuators in a throttle, joystick, yolk and shift knob are present in claims 8 and 10. (‘941 patent, 44:57-45:20.)

claims put the person of ordinary skill in the art on notice so that she may design around the claimed invention. *Athletic Alternatives v. Prince Mfg.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). It does not matter that the inventor may have subjectively intended to claim these embodiments. Here, the claims, read by a person of ordinary skill in the art in light of the specification, do not include these embodiments; they are disclosed, but not claimed.

Consequently, because the specification impliedly defines “attached” to mean “*affixed to the exterior surface*” the Court construes “attached to said pad” as “*affixed to the exterior surface of the flexible pad.*”

### III. CONCLUSION

For the reasons stated herein, the Court will construe “flexible pad” to mean “*an object or base, where such object or base is capable of being noticeably flexed with ease, including, among other things, hand-held game pad controllers that are capable of being noticeably flexed with ease*” and construe “attached to said pad” to mean “*affixed to the exterior surface of the flexible pad.*”

Dated: September 22, 2010

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/s/ Garrett E. Brown, Jr.  
GARRETT E. BROWN, JR., U.S.D.J.